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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/795,879	03/08/2004	George Carver	61404-1100	2091
24504	7590	10/26/2005		
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			EXAMINER AWAI, ALEXANDRA F	
			ART UNIT	PAPER NUMBER
			3663	

DATE MAILED: 10/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/795,879

Applicant(s)

CARVER ET AL.

Examiner

Alexandra Awai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 35-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/17/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election without traverse of Group I, and species B, CC, BBB and AAAA in the reply filed on 9/20/2005 is acknowledged. Claims 1-47 are pending, with claims 35-47 being withdrawn as directed to nonelected inventions. Claims 1-34 have been examined.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Certain aspects of the claims are vague and incomplete. All of the claims refer either directly or indirectly to "adjacent sidewalls" that are "substantially aligned", and the depending claims recite "rods being mounted" as a means of attachment. However, since the tubes are alternating, it is not clear which adjacent walls are being referred to as "adjacent sidewalls", or what position is being characterized by "substantially aligned. Moreover, several claims (e.g. 1, 2, 23, 28, etc.) recite that two of these "adjacent sidewalls" are aligned, rendering the arrangement of the unmentioned, but obviously present sidewalls ambiguous. In the nuclear art, the term, *rods*, evokes imagery of components that are not discussed the specification. The claims give no indication of the dimensions of the rods presently recited, or of how they are mounted or engaged with the corresponding recesses. The claims therefore lend themselves to spurious interpretations not within the scope of the disclosed subject matter.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Loftis et al.

Loftis et al. disclose a storage rack comprising elongated tubes with rectangular cross sections for storing nuclear fuel (see Abstract). These tubes are aligned and attached at the corners so that they form an alternating pattern (see Fig. 1). While patent drawings are not drawn to scale, relationships clearly shown in the drawing of a reference patent cannot be disregarded in determining the patentability of claims. See *In re Mraz*, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

6. Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Porowski.

Porowski discloses a storage rack for spent nuclear fuel comprising a plurality of tubes having recesses (Fig. 7, article 44) and corresponding fittings (Fig. 7, article 46) that are equivalent to the claimed first rods. These recesses and fittings are attached to each other, linking the tubes together. While patent drawings are not drawn to scale, relationships clearly shown in the drawing of a reference patent cannot be disregarded in determining the patentability of claims. See *In re Mraz*, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims ~~1-34~~^{2-17 AND 19-34} are rejected under 35 U.S.C. 103(a) as being unpatentable over Loftis et al. and Porowski as largely applied to claims 1 and 18, and further in view of Soot.

Loftis et al. teach an arrangement that is equivalent to the developed cell, which is disclosed by the applicant as conventional, as well as the placement of rod segments (Fig. 2, article 5) at the corners of the tubes, which are secured by welding. Note that welding is a conventional technique with regard to reinforcing mechanical connections. Loftis et al. does not teach that these rod-like projections may be mounted in recesses on an abutting tube. Porowski does teach projection-recess coupling as a means of attachment, and discloses as conventional the use of pins comprised by head and body portions (Fig. 14) as an attachment means in the nuclear art. The hollow rod-pin combination recited in the current claims amounts to no more

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than a description of the commonplace hinge, having a barrel comprised by two knuckles, each knuckle extending from a separate leaf, where the leaf consists of the sidewall of one of the adjacent tubes. Soot discloses the use of flattened, load bearing corners. It would have been obvious to one skilled in the relevant art to combine the features and teachings of the foregoing references and established common knowledge to achieve the structures and arrangement (e.g. only having rods on a first set of tubes) claimed because to do so would be a cost-effective use of the current technology. Note that the admitted prior art contain several other applicable examples of rods as connections means (Machado et al., Flynn) and developed cell configurations. While patent drawings are not drawn to scale, relationships clearly shown in the drawing of a reference patent cannot be disregarded in determining the patentability of claims. See *In re Mraz*, 59 CCPA 866, 455 F.2d 1069, 173 USPQ 25 (1972).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Awai whose telephone number is (517) 272-3079.

The examiner can normally be reached on 9:30-6:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AA

October 20, 2005


JACK KEITH
SUPERVISORY PATENT EXAMINER